



ENTERED PCT09

RAW SEQUENCE LISTING

DATE: 03/22/2002

PATENT APPLICATION: US/09/890,604

TIME: 11:40:36

Input Set : A:\41193--1.txt

Output Set: N:\CRF3\03222002\I890604.raw

C-41193-1

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3 <110> APPLICANT: Ellis, David D
4     Chapple, Clinton C S
5     Gilbert, Margarita
7 <120> TITLE OF INVENTION: Modification of Lignin Composition of Gymnosperms
9 <130> FILE REFERENCE: 41193-B
11 <140> CURRENT APPLICATION NUMBER: 09/890,604
12 <141> CURRENT FILING DATE: 2002-03-01
14 <150> PRIOR APPLICATION NUMBER: US 60/118,124
15 <151> PRIOR FILING DATE: 1999-02-01
17 <150> PRIOR APPLICATION NUMBER: PCT/CA00/00074
18 <151> PRIOR FILING DATE: 2000-01-31
20 <160> NUMBER OF SEQ ID NOS: 2
22 <170> SOFTWARE: PatentIn version 3.1
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25 <211> LENGTH: 5156
26 <212> TYPE: DNA
27 <213> ORGANISM: Arabidopsis thaliana
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52 ttgggttagca aaattttgat atattcttaa gaaactaata ttttaggttg atatattgca      180
54 gtcactaaat agttttaaaa gacacgaagt tggtaagaac aggcataatat tattcgattt      240
56 aattaggaat gcttatgtta atctgattcg actaattaga aacgacgata ctatgagctc      300
58 atagatggtc ccacgaccca ctctcccatt tgatcaatat tcaactgagc aatgaaacta      360
60 attaaaaacg tggtttagatt aaaaaataaa attgtgcagg tagcggatat ataatactag      420
62 taggggttaa aaataaaata aaacaccaca gtattaaatt tttgtttcaa aagtattatc      480
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68 ttgttaccac attttttgaa ttattctaatt attaatattg gatattatta caaaaagtaa      660
70 aaatatgata ttttagaata ctattatcga tatttgatat tattgacctt agctttgttt      720
72 ggggtggagac atgtgattat cttattacct ttttattcca tgaaactaca gagttcgcca      780

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78 gaacaggttg aatacagtg ccttgagttt caccctaatc ggtccaattt tgtgatatat 960
80 attgcgatac agacatacag cctacagagt tttgtcttag cccactgggt ggcaaacgaa 1020
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132 1 5
134 agc aaa cta tca gat ccc acg acg tct ctt gtc atc gtt gtc tct ctt 2561
135 Ser Lys Leu Ser Asp Pro Thr Thr Ser Leu Val Ile Val Val Ser Leu
136 10 15 20 25
138 ttc atc ttc atc agc ttc atc aca cgg cgg cga agg cct cca tat cct 2609
139 Phe Ile Phe Ile Ser Phe Ile Thr Arg Arg Arg Arg Pro Pro Tyr Pro
140 30 35 40
142 ccc ggt cca cga ggt tgg ccc atc ata ggc aac atg tta atg atg gac 2657
143 Pro Gly Pro Arg Gly Trp Pro Ile Ile Gly Asn Met Leu Met Met Asp
144 45 50 55
146 caa ctc acc cac cgt ggt tta gcc aat tta gct aaa aag tat ggc gga 2705
147 Gln Leu Thr His Arg Gly Leu Ala Asn Leu Ala Lys Lys Tyr Gly Gly
148 60 65 70
150 ttg tgc cat ctc cgc atg gga ttc ctc cat atg tac gct gtc tca tca 2753
151 Leu Cys His Leu Arg Met Gly Phe Leu His Met Tyr Ala Val Ser Ser
152 75 80 85
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155 Pro Glu Val Ala Arg Gln Val Leu Gln Val Gln Asp Ser Val Phe Ser
156 90 95 100 105

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163 Asp Met Ala Phe Ala His Tyr Gly Pro Phe Trp Arg Gln Met Arg Lys
164                               125                               130                               135
166 gtg tgt gtc atg aag gtg ttt agc cgt aaa aga gct gag tca tgg gct      2945
167 Val Cys Val Met Lys Val Phe Ser Arg Lys Arg Ala Glu Ser Trp Ala
168                               140                               145                               150
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178 attaaacaaa tatgtaaaaa gtgaaagtag tcatttcttc tttctttagt atgtacttta      3102
180 acatttaacc aaaacaattg taggtaag cct ata aac gtc ggg gag caa att      3154
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194                               215                               220                               225
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198                               230                               235                               240
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231          Asp Val Met Phe Gly Gly Thr Glu Thr Val Ala Ser
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234 gcg ata gag tgg gcc tta acg gag tta tta cgg agc ccc gag gat cta 3985
235 Ala Ile Glu Trp Ala Leu Thr Glu Leu Leu Arg Ser Pro Glu Asp Leu
236          330          335          340
238 aaa cgg gtc caa caa gaa ctc gcc gaa gtc gtt gga ctt gac aga cga 4033
239 Lys Arg Val Gln Gln Glu Leu Ala Glu Val Val Gly Leu Asp Arg Arg
240          345          350          355
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243 Val Glu Glu Ser Asp Ile Glu Lys Leu Thr Tyr Leu Lys Cys Thr Leu
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247 Lys Glu Thr Leu Arg Met His Pro Pro Ile Pro Leu Leu Leu His Glu
248 375          380          385          390
250 acc gcg gag gac act agt atc gac ggt ttc ttc att ccc aag aaa tct 4177
251 Thr Ala Glu Asp Thr Ser Ile Asp Gly Phe Phe Ile Pro Lys Lys Ser
252          395          400          405
254 cgt gtg atg atc aac gcg ttt gcc ata gga cgc gac cca acc tct tgg 4225
255 Arg Val Met Ile Asn Ala Phe Ala Ile Gly Arg Asp Pro Thr Ser Trp
256          410          415          420
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259 Thr Asp Pro Asp Thr Phe Arg Pro Ser Arg Phe Leu Glu Pro Gly Val
260          425          430          435
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263 Pro Asp Phe Lys Gly Ser Asn Phe Glu Phe Ile Pro Phe Gly Ser Gly
264          440          445          450
266 cgt aga tcg tgc ccg ggt atg caa cta ggg tta tac gcg ctt gac tta 4369
267 Arg Arg Ser Cys Pro Gly Met Gln Leu Gly Leu Tyr Ala Leu Asp Leu
268 455          460          465          470
270 gcc gtg gct cat ata tta cat tgc ttc acg tgg aaa tta cct gat ggg 4417
271 Ala Val Ala His Ile Leu His Cys Phe Thr Trp Lys Leu Pro Asp Gly
272          475          480          485
274 atg aaa cca agt gag ctc gac atg aat gat gtg ttt ggt ctc acg gct 4465
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276          490          495          500
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280          505          510          515
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283 Ala Leu
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331 65 70 75 80
334 Phe Leu His Met Tyr Ala Val Ser Ser Pro Glu Val Ala Arg Gln Val
335 85 90 95
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351 145 150 155 160
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355 165 170 175
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363 195 200 205
366 Gln Glu Phe Ser Lys Leu Phe Gly Ala Phe Asn Val Ala Asp Phe Ile
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370 Pro Tyr Phe Gly Trp Ile Asp Pro Gln Gly Ile Asn Lys Arg Leu Val
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375 245 250 255
378 His Met Lys Lys Lys Glu Asn Gln Asn Ala Val Asp Asp Gly Asp Val
379 260 265 270
382 Val Asp Thr Asp Met Val Asp Asp Leu Leu Ala Phe Tyr Ser Glu Glu
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L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date

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